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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,684	11/23/1999	T. G. VISHWANATH	115426-966	4123
29158	7590	05/05/2006	EXAMINER	
BELL, BOYD & LLOYD LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			SMITH, SHEILA B	
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/447,684	VISHWANATH ET AL.	
	Examiner	Art Unit	
	Sheila B. Smith	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 21-33 is/are allowed.
- 6) ☐ Claim(s) 1-13, 15, 18-20 and 34-37 is/are rejected.
- 7) ☐ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Reassignment Affecting Application Location

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit **2617**.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,4 rejected under 35 U.S.C. 102(e) as being anticipated by Rakib et al. (U. S. Patent Number 6,356,555).

Regarding claim 1, Rakib et al. discloses all the claimed invention as set fourth in the instant application, also Rakib et al. discloses a apparatus and method for digital data transmission using orthogonal codes, additionally Rakib et al. discloses method for enabling synchronization of a communications terminal in a wireless communication system comprising: receiving a burst at a receiver of the communications terminal, the burst containing a composite

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waveform including two or more component waveforms (which reads on column 17 lines 54-60), wherein each of the two or more waveforms has a known frequency variation throughout the burst and, estimating a frequency offset and a timing offset of said composite waveform as received into said receiver whereby said synchronization of said communications terminal is achieved (which reads on column 43 lines 1-10).

Regarding claim 2, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses estimating said frequency offset and said timing offset of said composite waveform occurs after both of said detecting steps (which reads on column 43 lines 1-10).

Regarding claim 3, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses detecting a second component waveform of said two or more waveforms (which reads on column 43 lines 1-10).

Regarding claims 4, 5, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses estimating, after both of said detecting steps, a frequency offset and a timing offset of said composite waveform as received into said receiver (which reads on column 76 lines 14-35).

Regarding claim 6, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses transforming said first deswept component waveform into a first frequency domain representation (which reads on column 43 lines 1-10).

Regarding claim 7, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses transforming includes using a Fast Fourier Transform (which reads on column 43 lines 1-10).

Regarding claim 8, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses estimating a signal-to-noise ratio of said first frequency domain representation (which reads on column 76 lines 14-35).

Regarding claim 9, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses comparing said signal-to-noise ratio of said first frequency domain representation to a threshold. estimating, first peak frequency representation (which reads on column 76 lines 14-35).

Regarding claim 10, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses the event said threshold is exceeded, a of said first frequency domain (which reads on column 43 lines 1-10).

Regarding claims 11, 12, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses a Discrete Fourier Transform to fine-tune the estimate of said first peak frequency (which reads on column 76 lines 14-35).

Regarding claim 13, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses estimating a second peak frequency from said second frequency domain representation (which reads on column 43 lines 1-10).

Regarding claim 15, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses estimating comprises estimating, using said first peak frequency and said second peak frequency and said known frequency variation of each of said first component waveform and said second component waveform (which reads on column 43 lines 1-10).

Regarding claims 18,19, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses 18, 19. The method of Claim 1 wherein said receiving comprises receiving said burst through a channel, wherein said composite waveform has a composite bandwidth on an order of an available channel bandwidth, wherein each of said two or more component waveforms has 30 a component bandwidth on the order of the available channel bandwidth (which reads on column 76 lines 14-35)..

Regarding claim 20, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses 20. The method of Claim 1 wherein said 5 composite waveform comprises a dual-chirp waveform including an up-chirp waveform and a down-chirp waveform (which reads on column 43 lines 1-10).

Regarding claims 34, 37, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses discloses a apparatus and method for digital data transmission using orthogonal codes, additionally Rakib et al. discloses method for enabling synchronization of a communications terminal in a wireless communication system comprising: receiving a burst at a receiver of the communications terminal, the burst containing a composite waveform including two or more component waveforms (which reads on column 17 lines 54-60), wherein each of the two or more waveforms has a known frequency variation throughout the burst and, estimating a frequency offset and a timing offset of said composite waveform as received into said receiver whereby said synchronization of said communications terminal is achieved (which reads on column 43 lines 1-10).

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Regarding claim 35, 36, Rakib et al. discloses everything claimed, as applied above (see claim 1) also Rakib et al. discloses detecting comprises detecting a first component waveform of said two or more component waveforms (which reads on column 76 lines 14-35).

Allowable Subject Matter

1. Claims 21-33 are allowed.
2. Claims 16, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (571)272-7847. The examiner can normally be reached on Monday-Thursday 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Smith

Monday, May 01, 2006


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER